

1 [0046] I CLAIM:

1 1. A disk drive printed circuit board for use with a disk drive electrical component, the disk
2 drive electrical component defining a rectangular perimeter, the perimeter including opposing first
3 and second edges defining a first lateral distance, the perimeter further including opposing third and
4 fourth edges extending between the first and second edges and defining a second lateral distance,
5 the perimeter further including opposing corners defining a diagonal distance, the printed circuit
6 board comprising:

7 a board body;

8 a mounting surface disposed upon the board body; and

9 component-dedicated alignment line indicators visibly disposed at the mounting
10 surface for aligning the disk drive electrical component at the mounting surface, the
11 component-dedicated alignment line indicators including:

12 first and second inner line segments spaced apart a first inner spacing at least
13 the first lateral distance and less than the diagonal distance;

14 third and fourth inner line segments extending between and perpendicular to
15 the first and second inner line segments, the third and fourth inner line segments
16 spaced apart a second inner spacing at least the second lateral distance and less than
17 the diagonal distance; and

18 first and second outer line segments disposed parallel to the first and second
19 inner line segments with the first and second inner line segments between the first
20 and second outer line segments, the first and second outer line segments spaced

21 apart a first outer spacing more than the first inner spacing and less than the diagonal
22 distance.

1 2. The printed circuit board of Claim 1 wherein the third and fourth inner line segments
2 intersect the first and second inner line segments.

1 3. The printed circuit board of Claim 1 wherein the component-dedicated alignment line
2 indicators further includes a third outer line segment extending between and perpendicular to the
3 first and second outer line segments, the third outer line segment is disposed with the third inner
4 line segment between the third edge of the disk drive component and the third outer line segment.

1 4. The printed circuit board of Claim 3 wherein the third outer line segment intersects the first
2 and second outer line segments.

1 5. The printed circuit board of Claim 1 wherein the component-dedicated alignment line
2 indicators further includes third and fourth outer line segments extending between and
3 perpendicular to the first and second outer line segments, the third and fourth inner line segments
4 spaced apart a second outer spacing at least the second lateral distance and less than the diagonal
5 distance.

1 6. The printed circuit board of Claim 5 wherein the third and fourth outer line segments
2 intersect the first and second outer line segments.

1 7. A method of producing printed circuit board assemblies, the method comprises:

2 a) providing electrical components, each of the electrical components

3 defining a rectangular perimeter, the perimeter including opposing first and second

4 edges defining a first lateral distance, the perimeter further including opposing third

5 and fourth edges extending between the first and second edges and defining a

6 second lateral distance, the perimeter further including opposing corners defining a

7 diagonal distance;

8 b) providing printed circuit boards each including:

9 a board body;

10 a mounting surface disposed upon the board body; and

11 component-dedicated alignment line indicators visibly disposed at the

12 mounting surface for aligning the disk drive electrical component at the mounting

13 surface, the component-dedicated alignment line indicators including:

14 first and second inner line segments spaced apart a first inner spacing

15 at least the first lateral distance and less than the diagonal distance;

16 third and fourth inner line segments extending between and

17 perpendicular to the first and second inner line segments, the third and

18 fourth inner line segments spaced apart a second inner spacing at least the

19 second lateral distance and less than the diagonal distance; and

20 first and second outer line segments disposed parallel to the first and

21 second inner line segments with the first and second inner line segments

22 between the first and second outer line segments, the first and second outer

23 line segments spaced apart a first outer spacing more than the first inner
24 spacing and less than the diagonal distance;
25 c) mounting the electrical components at the mounting surface of respective
26 ones of the printed circuit boards adjacent the component-dedicated alignment line
27 indicators to form candidate printed circuit board assemblies; and
28 d) segregating the candidate printed circuit board assemblies based upon the
29 position of the perimeters of the electrical components in relation to the component-
30 dedicated alignment line indicators.

1 8. The method of Claim 7 wherein d) includes segregating given ones of the candidate printed
2 circuit board assemblies based upon the perimeter of a respective one of the electrical components
3 being disposed between the first and second inner lines segments and the third and fourth inner line
4 segments.

1 9. The method of Claim 7 wherein d) includes segregating given ones of the candidate printed
2 circuit board assemblies based upon a respective one of the corners of the perimeter of a respective
3 one of the electrical components being disposed beyond a respective one of the first and second
4 inner line segments with respect to the first, second, third and fourth inner lines segments.

1 10. The method of Claim 7 wherein d) includes segregating given ones of the candidate printed
2 circuit board assemblies based upon a respective one of the corners of the perimeter of a respective
3 one of the electrical components being disposed beyond a respective one of the third and fourth
4 inner line segments with respect to the first, second, third and fourth inner lines segments.

1 11. The method of Claim 7 wherein each of the perimeters of the electrical components
2 includes a pair intermediate corners disposed between the opposing corners, d) includes segregating
3 given ones of the candidate printed circuit board assemblies based upon a respective one of the
4 opposing corners and a respective one of the intermediate corners both being disposed beyond a
5 respective one of the first and second inner line segments with respect to the first, second, third and
6 fourth inner lines segments.

1 12. The method of Claim 7 wherein each of the perimeters of the electrical components
2 includes a pair intermediate corners disposed between the opposing corners, d) includes segregating
3 given ones of the candidate printed circuit board assemblies based upon a respective one of the
4 opposing corners and a respective one of the intermediate corners both being disposed beyond a
5 respective one of the third and fourth inner line segments with respect to the first, second, third and
6 fourth inner lines segments.

1 13. The method of Claim 7 wherein d) includes segregating given ones of the candidate printed
2 circuit board assemblies based upon a respective one of the corners of the perimeter of a respective
3 one of the electrical components being disposed beyond a respective one of the first and second
4 outer line segments with respect to the first, second, third and fourth inner lines segments.

1 14. The method of Claim 7 wherein each of the perimeters of the electrical components
2 includes a pair intermediate corners disposed between the opposing corners, d) includes segregating
3 given ones of the candidate printed circuit board assemblies based upon a respective one of the
4 opposing corners and a respective one of the intermediate corners both being disposed beyond a

5 respective one of the first and second outer line segments with respect to the first, second, third and
6 fourth inner lines segments.

1 15. The method of Claim 7 wherein the printed circuit board assemblies are for a disk drive and
2 the electrical components are accelerometers.